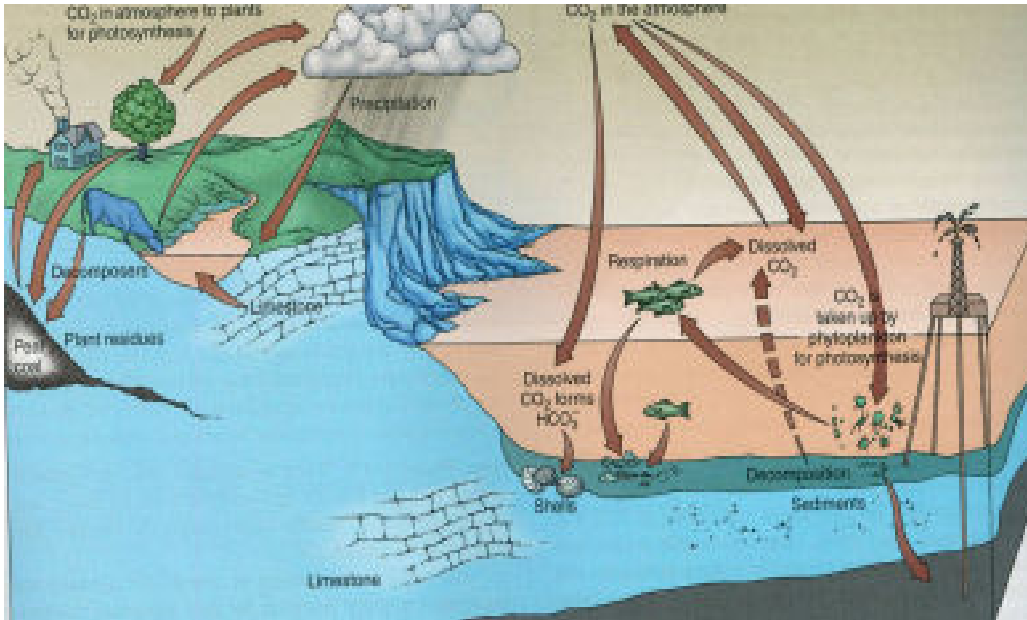


OCEAN CHEMISTRY & THE CARBON CYCLE

Marine hotspots of biological activity include: *air-water, water-sediment, water-ice and host/macroorganism-water interfaces.*

Carbon dioxide in the atmosphere is transferred into and out of the ocean continually, maintaining a balance by **DISSOLVING** in cold polar waters which sink into the deep ocean and by **OUTGASSING** where deep water upwells and warms near the equator.



DIFFUSION of CO₂ from the ocean surface also transfers this molecule between the atmosphere and the ocean.

Carbon dioxide is **DISSOLVED** in the ocean waters as HCO₃⁻ (carbonate ions) - these and calcium ions in the water are **METABOLIZED** by shellfish, corals and barnacles into calcium carbonate “shells” and are eventually **DEPOSITED** into limestone marine sediments.

